

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 18 MAY 2004

WIPO PCT

Applicant's or agent's file reference GL217493/142	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No.  <b>PCT/NZ2003/000186</b>	International Filing Date (day/month/year) 21 August 2003	Priority Date (day/month/year)  21 August 2002
International Patent Classification (IPC) or national classification and IPC  Int. Cl. <sup>7</sup> C07H 19/23; A61K 31/7042; A61P 31/04, 33/02, 35/00, 37/02		
Applicant  ALBERT EINSTEIN COLLEGE OF MEDICINE OF YESHIVA UNIVERSITY et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26 March 2004	Date of completion of the report 5 May 2004
Name and mailing address of the IPEA/AU  AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer   <b>O. L. CHAI</b> Telephone No. (02) 6283 2482

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**I. Basis of the report****1. With regard to the elements of the international application:\***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1-28	YES
	Claims	NO
Inventive step (IS)	Claims 1-28	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-28	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

The present application is directed to compounds which are transition state analogues of purine nucleoside phosphorylase, pharmaceutical compositions and uses of these compounds in the treatment of disease.

The following documents are considered for the purposes of this opinion:

D1 WO 2002 018371

D2 WO 1999 019338

D3 Evans G. B. et al., J. Med. Chem., 2003, 46, 3412-3423

D4 Lewandowicz A. et al., Biochemistry, 2003, 42, 2057-6066

Documents D3 and D4 were published prior to the international filing date of the present application but later than the priority date claimed. Under the PCT guidelines, such documents are excluded from consideration during international preliminary examination, however, D3 and D4 are nevertheless included here for the purpose of information. This is based on the assumption that the claimed priority date is valid. If this date is subsequently found to be invalid, then D3 and D4 may become relevant during national examination.

D1 and D2 disclose compounds which differ to those in the present application. In both of these documents the nitrogen of the azasugar is in the 1 position and the base is attached to the two position. In the present application the nitrogen of the azasugar is in either the 1 or the 2 position and the base is attached through this nitrogen. Therefore, the claims of the present application are novel in the light of D1 and D2.

Neither D1 or D2 suggest the compounds of the present application. Claims 1-28 are inventive in the light of these citations.

The subject matter defined in the claims is considered to be industrially applicable.